# MITIGATION MEASURES 7.0

## 7.1 MITIGATION MEASURES



The integration of the engineering and performance objectives with urban design and landscape objectives to produce a design outcome that has high visual quality has incorporated a range of mitigation measures into the project. The overall urban and landscape design objective is to develop a solution that would protect and enhance the existing visual character of the Motorway corridor. The following series of urban and landscape design strategies describe the means by which the mitigation measures have been incorporated into the proposed widening of the M5 South West Motorway within the study area. They have been developed in accordance with the Urban Design Objectives and Principles, set out in section 6 and will be further developed as part of the Urban Design and Landscape Plan to be prepared during the detailed design stage of the project. They include:

- Gateway and Interchange Treatments;
- Carriageway Extension and Removal of Corridor Vegetation;
- New Control Building;
- Noise Mitigation;
- New and Modified Sedimentation Basins;
- Modification of Bridges;
- Embankments and Retaining Walls;
- Construction Compounds.

### 7.1.1 Gateway and Interchange Treatments

It is proposed to highlight the beginning of the M5 West Motorway in the vicinity of King Georges Road and end of the motorway in the vicinity of Campbelltown Road with landscape treatments (refer to Illustrations 69 and 70).

The locations for these treatments would need to have good sight distance in order to get the benefit of signalling the start of the M5 at each end, whilst not impacting on the sightlines to any directional or advertising signage. Selection of species would need to consider microclimatic conditions caused by aspect, elevation, slope and adjoining surfaces and land uses as well as soil conditions and maintenance requirements overtime. These works may require removal of some of the existing vegetation in this area to achieve the intended design effect of distinguishing these areas from the overall bushland character.

Where existing vegetation is to be retained, the landscape treatments at interchanges would comprise infill planting of massed colourful shrubs and groundcovers selected from the Cumberland Plain Woodland. These would be used to screen noise walls where gaps in the existing planting occur, and to distinguish these areas by way of contrasting colour and texture from the overall bushland character.

At King Georges Road where there is considerable established vegetation, this would comprise infilling at the noise walls with Swamp She Oak and more formal planting of Spotted Gum where noise walls curve away from the main alignment, and where their form may be captured in the shadows falling on noise walls. These taller plantings would form a backdrop to infill planting of massed colourful shrubs (Callistemon "Great Balls of Fire" and Leptospermum "Merinda") planted in mixed swathes to capture the effect of their contrasting colour and texture. In the foreground, accent planting of Gymea lily and Hardenbergia will provide splashes of intense seasonal colour and year round textural contrast.

# 7.0 MITIGATION MEASURES



## 7.1 MITIGATION MEASURES

The chosen species are selected forms bred for their ornamental value of species found locally and thereby reference the indigenous vegetation while providing contrast with it.

At Beech Road the approach is to use some of the same treatments above, but due to the close proximity of noise wall to the eastbound carriageway, the proximity to the M5 (a gateway in itself) with its generally open pasture landscape character, layout of planting is more formal. A wide avenue of Spotted Gums flank the M5 on-ramp, whilst grid planting of colourful shrubs are planted to the foreground of the noise walls.

The proposed species, sizes and estimated total quantity of planting to achieve the effect described above is described in the following table:

| Species | Common Name | Height (m) | Size | Western Gateway at Beech Road | Eastern Gateway at King Georges Road | Total Number |
|---|---|---|---|---|---|---|
| Feature Trees | | | | | | |
| *Casuarina glauca* | Swamp She-Oak | 10 | 35 litre | 91 | 88 | 179 |
| *Corymbia maculata* | Spotted Gum | 26 | 35 litre | 211 | 205 | 417 |
| | total | | | 302 | 293 | **595** |
| Feature Shrubs | | | | | | |
| *Callistemon* 'Great Balls of Fire' | Bottlebrush | 1.75 | 200mm | 759 | 2195 | 2954 |
| *Hardenbergia violaceae* 'Regent' | Regent | 1 | 200mm | 569 | 1646 | 2215 |
| *Leptospermum* 'Merinda' | Ti Tree | 1 | 200mm | 569 | 1646 | 2215 |
| | total | | | 1897 | 5487 | **7384** |
| Accent Plants | | | | | | |
| Doryanthes excelsa | Gymea Lily | 1.5 | 35 litre | 564 | 1258 | 1822 |
| | total | | | 564 | 1258 | **1822** |
| Feature Groundcovers | | | | | | |
| *Hardenbergia violaceae* 'Mini-Haha' | Mini-Haha | 0.1 | 200mm | 0 | 1824 | 1824 |
| | total | | | 0 | 1824 | **1824** |
| Total plants at each intersection | | | | 5526 | 19548 | |

*Illustration 71: Proposed planting at gateway intersections*
(plan supplied by HBO+EMTB)

# MITIGATION MEASURES 7.0

## 7.1 MITIGATION MEASURES



In addition, the parkland style landscaping utilising Cumberland Plain Woodland species would be enhanced where required at the following interchanges:

- Belmore Road;
- Fairford Road;
- The River Road;
- Henry Lawson Drive;
- Heathcote Road;
- Moorebank Avenue (refer to Illustration 72);
- Hume Highway;
- Camden Valley Way.

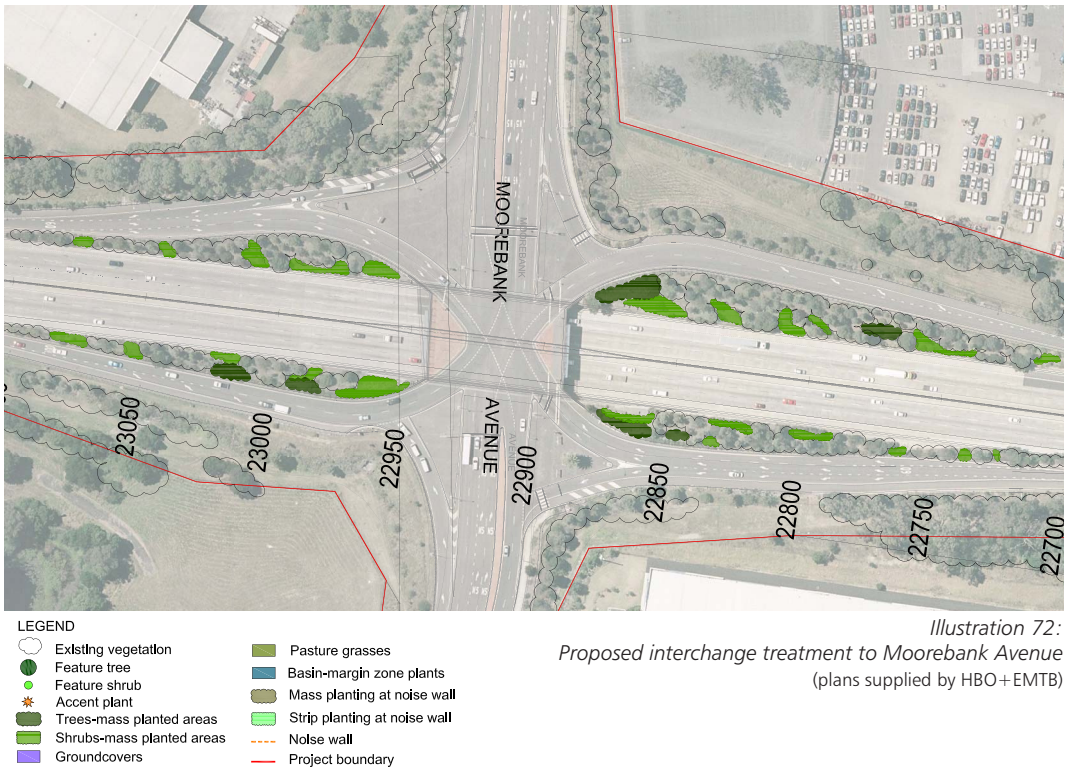



*Illustration 72:*
*Proposed interchange treatment to Moorebank Avenue*
(plans supplied by HBO+EMTB)

# 7.0 MITIGATION MEASURES



## 7.1 MITIGATION MEASURES

### 7.1.2 Carriageway Extension and Removal of Corridor Vegetation

As a result of carriageway extension and the installation of new Motorway infrastructure such as VMS's, a number of trees contained in the motorway corridor would need to be cleared. Ameliorative measures would include:

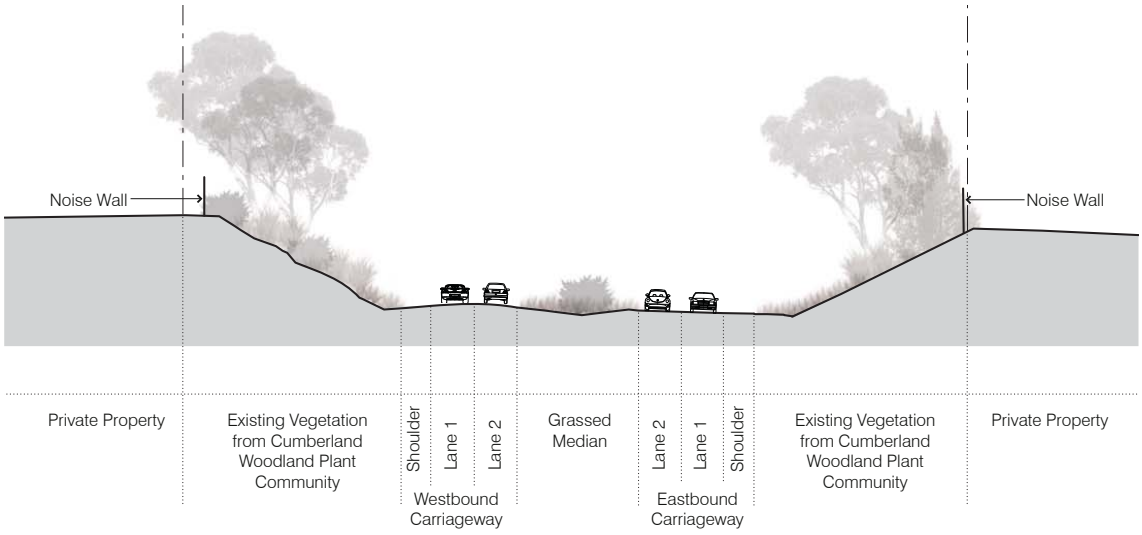
- Revegetation with Cumberland Plain Woodland species (including grasses, groundcovers, and shrubs, depending on sight line requirements) in roadside areas to reduce perceived corridor width.
- Revegetation with Cumberland Plain Woodland species in areas unaffected by utilities and infrastructure, maintaining sightlines to these elements and considering clearance requirements.
- Screen planting against new retaining and noise walls to reduce their visual dominance and soften the edge effect of straight lines adjacent to the Motorway corridor.
- Where median planting is removed in areas where noise walls are close to carriageway, compensate by strip planting between noise walls and carriageway where practicable.

Refer to Illustrations 73 and 74.

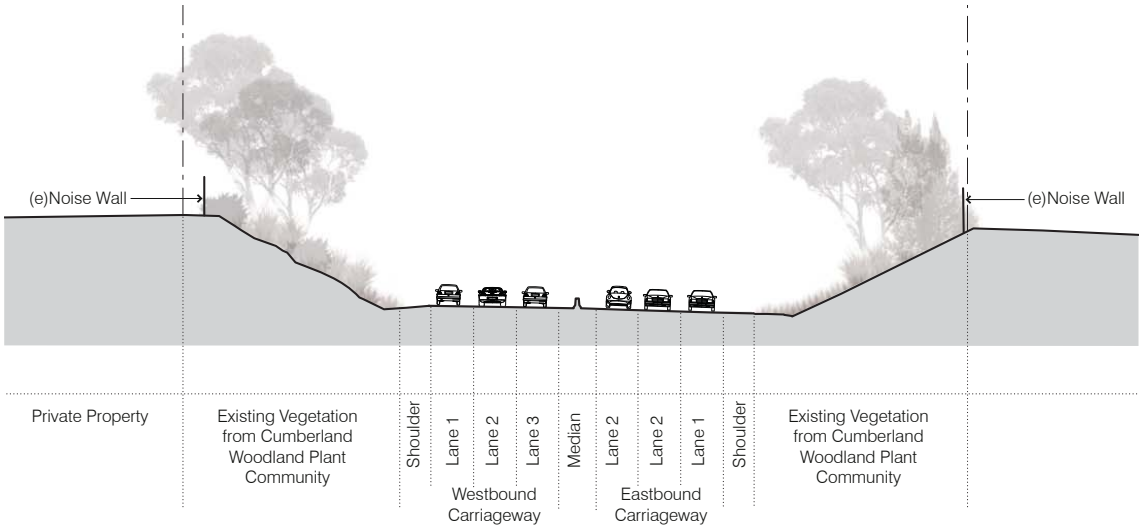
# MITIGATION MEASURES 7.0

## 7.1 MITIGATION MEASURES






STATION 13500 EXISTING




STATION 13500 NEW WORK

*Illustrations 73 - 74:*
*Cross sections showing existing situation (top) and proposed work*
(images supplied by HBO+EMTB)

# 7.0 MITIGATION MEASURES



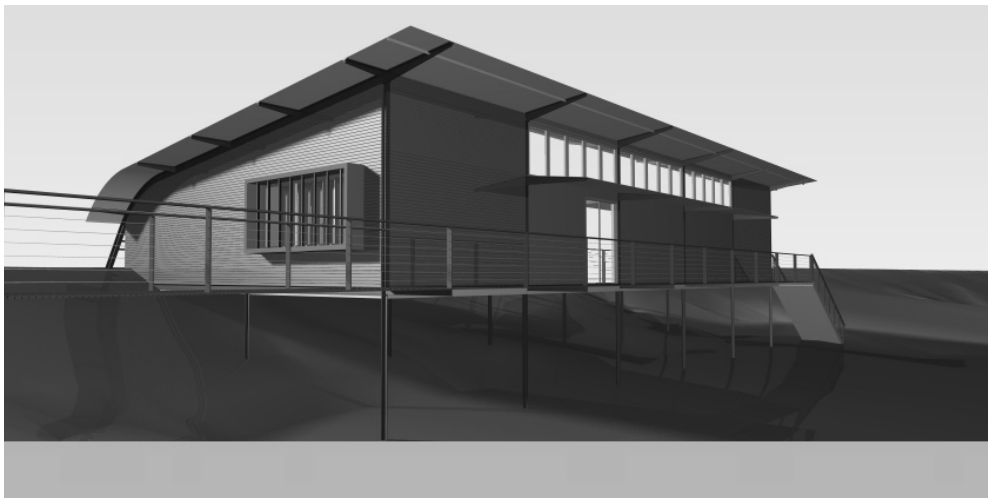
## 7.1 MITIGATION MEASURES

### 7.1.3 New Control Building

The key element in the design of the new building (refer to Illustration 75) is the integration with the existing building architectural style, form and scale, as well as integrating it into the existing landscape setting.

The building is proposed to sit into the landform to reduce its prominence and the impact on the existing landscape planting is minimised as much as possible. A light-weight steel frame and metal clad structure would allow for off-site fabrication and quick assembly on site reducing extensive construction times.

The building will be accessed by an elevated walkway linking the proposed structure to the existing Control Building. Sun shading devices are proposed to the East and North facades in order to deliver optimum thermal performance and visual connection between existing and proposed buildings.



*Illustrations 75:*
*Proposed control building* (drawing supplied by HBO+EMTB)